REMARKS

This application has been reviewed in light of the Final Office Action dated June 15, 2005. Claims 1-18 are pending in the application. Claim 19 has been cancelled without prejudice. By the present amendment, claims 1 and 13 have been amended to include the limitations of claim 19. No new matter has been added by the amendments. The Examiner's reconsideration of the rejection in view of the amendment and the following remarks is respectfully requested.

By the Office Action, claims 1-11, 13-16 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Voit et al. (U.S. Patent No. 6,424,657), hereinafter Voit, in view of Chaddha (U.S. Patent No. 6,392,705), hereinafter Chaddha. The Applicants respectfully traverse the rejection.

Voit's system and method is wholly unrelated to and fails to address the goal of the present invention. What Voit teaches is a method for prioritizing traffic in a data communications network according to tiers of service/service type. That is, Voit is a subscriber-based system where the subscriber selects a desired grade or quality of Internet access service; traffic on a virtual circuit is thereafter regulated to the rate corresponding to the grade of Internet access service to which the particular customer subscribes. *See* e.g., Col. 8, lines 41-43; also Col. 15, lines 7-18, which recites: "...the carrier programs one or more nodes along the path behind the DSLAMs 17, to regulate traffic on the virtual circuit to the rate corresponding to the **grade of Internet access service to which the particular customer subscribes.**"

In fact, Voit's disclosure is replete with statements explaining this level of service subscription feature: Col. 25, lines 43-45 recite, "[E]ach virtual circuit is typically limited to the **rates defined in any SLAs [service level agreements] that the carrier has with a particular customer.**" Col. 27, lines 45-49 states: " ... the downstream ISP traffic within a particular PVC [permanent virtual circuit] can be examined at a higher protocol level and prioritized based on a queuing strategy **in accordance with a selected grade of service** for different traffic types within that PVC." (Emphasis added).

Simply put, Voit provides a system for supporting a number of different customer-selected levels of quality of service within an access network. In other words, the speed at which data is provided is purchased by a subscriber. While the maximum grade of service

offered to an individual subscriber depends on the rates for which the subscriber's line can qualify, the subscriber may opt for a lower rate service to save money, since the higher-rate service is more expensive. (*See* Voit col. 5, lines 28-40). Clearly, Voit's rate of data transmission is determined principally by the individual subscriber's desires (indicated by the subscription level purchased), not strictly by the bandwidth available.

In stark contrast, the present invention delivers the maximum amount of data (video layers) to a customer based upon the amount of available bandwidth, with more video layers (sub-signals) being delivered over a DSL path as the DSL path decreases in length, essentially as claimed in claims 1 and 13. Thus, the present invention automatically delivers the best possible resolution to customers that their respective DSL paths are capable of handling. Voit not only fails to disclose or suggest this concept, but wholly teaches away from it, as clearly evidenced by its statement (recited above) regarding a subscriber's ability to opt for a lower rate of service despite being capable of receiving the maximum grade of service, and further in Col. 8, lines 57-61, which recites: "[T]hat circuit is provisioned for the subscriber's desired grade or quality of Internet access service. The subscriber line, however, supports at least the same and often a higher rate service..."

Furthermore, Voit provides different quality levels or tiers of service of the same content. That is, each signal is subscribed to in advance and is representative of the entire video signal. Contrast this with the present invention's selection of sub-signals according to a level of importance and according to a bandwidth suitable for subsequent reception over a DSL path.

It is respectfully submitted that Chadda fails to cure the deficiencies of Voit. Chaddha is directed to a system where layers of data are formed for temporal or spatial scalability. Chaddha transmits as much data as possible, and as the data is often redundant, thus requiring some data to be discarded. In fact, layers which are not used get pruned. *See* e.g., Col. 14, lines 61-63, stating: "[T]he receiver decides which multicast groups to join/leave based on a control algorithm. Thus, groups which are not joined get pruned." *See* also, Col. 15, lines 23-28, stating: "[I]n a multicase scenario, for example, one multicast group gets video data from B4 to B8 spatial layers and T1 to T2 temporal layers. Thus for the second multicast group the layers which are not used get pruned."

Contrast this with the present invention, which takes a video signal and separates it into sub-signals. These sub-signals are each combinable and include a level of importance, essentially as claimed in claims 1 and 13. In accordance with a subscriber's bandwidth capacity, the sub-signals are received independently over separate channels (e.g., ATM channels) and combined to re-form a highest possible resolution signal.

Nevertheless, Applicants have amended independent claim 13 to include the limitations of claim 19. Claim 1 has been amended to include the substantive limitations of claim 19 as well. Claim 1 now recites:

A method of delivering video over a network comprising the steps of:

separating a digitally compressed video signal into multiple sub-signals, the sub-signals having different levels of image detail and being combinable such that a greater number of sub-signals being combined provides higher image resolution;

coding each of said sub-signals;

transmitting each of said sub-signals independently over asynchronous transfer mode (ATM) paths;

receiving each of said sub-signals; and

selecting certain ones of said sub-signals according to a level of importance and according to a bandwidth suitable for subsequent reception over a digital subscriber line (DSL) path, wherein more of the sub-signals can be delivered over the digital subscriber line (DSL) path as the DSL path decreases in length.

Amended claim 13 now recites:

A network for delivering video over a digital subscriber line (DSL) path comprising:

a customer premises equipment (CPE) for coupling to a subscriber's communications device;

a digital subscriber line access multiplexer (DSLAM) coupled over a digital subscriber line (DSL) path to the customer premises equipment;

an asynchronous transfer mode (ATM) network coupled between the digital subscriber line access multiplexer (DSLAM) and

a source of video signal, the video signal being made up of multiple video layers contributing to a resolution of the video signal when the multiple video layers are combined, the video layers having different levels of image detail and being combinable such that a greater number of video layers being combined provides higher image resolution; and

a network control for monitoring bandwidth available on the digital subscriber line (DSL) path to the customer premises equipment (CPE) and controlling the digital subscriber line access multiplexer (DSLAM) to deliver to the customer premises equipment (CPE) selective ones of the video layers, the selective ones being chosen according to a level of importance of the video layer and the bandwidth available, wherein the digital subscriber line access multiplexer (DSLAM) can deliver more of the multiple video layers over the digital subscriber line (DSL) path as the DSL path decreases in length.

Neither Voit nor Chadda disclose or suggest wherein more of the multiple video layers (sub-signals) can be delivered over the digital subscriber line (DSL) path as the DSL path decreases in length, as now claimed in claims 1 and 13. This fact was acknowledged by the Examiner on page 6 of the Final Office Action of June 15, 2005.

Claims 17 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Voit in view of Chadda as applied to claim 13 above, and further in view of U.S. Patent No. 6,768,777 to Cooperman et al. (hereinafter Cooperman). Cooperman has been cited as allegedly teaching that more layers can be delivered over the DSL path as the path decreases in length. However, Applicants have carefully reviewed Cooperman and respectfully disagrees.

Cooperman involves a method for calculating the number of distribution nodes necessary to provide VDSL services to subscribers. That is, Cooperman focuses on addressing the problem of quickly and accurately calculating the minimum number of VDSL nodes necessary for any given street layout, even for extremely complex street layouts having thousands of twisted pairs. Applicants note the Examiner's citing of Col. 1, lines 58-67 in Cooperman; however, what is discussed in Cooperman is the general concept that one factor which must be taken into account is that twisted pair subscriber lines have distortion and losses that increase with frequency and line length. Thus, to account for this limitation, DSL providers must limit the length of the copper line over which the DSL signal is transmitted. For example, the average length of a subscriber copper line mentioned in Cooperman to

satisfactorily provide VDSL services is not more than 2500 feet. This distance factor is simply taken into account in Cooperman's invention for determining the necessary number of VDSL nodes.

There is nothing in Cooperman which explicitly or implicitly mentions selecting certain ones of said sub-signals (video layers) according to a level of importance and according to a bandwidth suitable for subsequent reception over a digital subscriber line (DSL) path, wherein more of the sub-signals (video layers) can be delivered over the digital subscriber line (DSL) path as the DSL path decreases in length, essentially as claimed in claims 1 and 13.

Accordingly, claims 1 and 13 are believed to be patentable and nonobvious over Voit and Chadda in view of Cooperman, either alone or in combination, for at least the reasons stated above.

Claims 2-11 depend from and include the limitations of claim 1. Claims 14-18 depend from and include the limitations of claim 13. The dependent claims are believed to be patentable and nonobvious for at least the reasons stated above for claims 1 and 13.

Claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Voit in view of Chadda as applied to claim 1 above, and further in view of U.S. Patent No. 6,707,822 to Fadavi-Ardekani et al. (hereinafter Fadavi). The rejection of claim 12 is based, in part, on the Examiner's contention that Voit and/or Chadda disclose or suggest the features of claim 1, from which claim 12 depends. Without addressing the specific rejection, however, it is clear that the combination of Voit, Chadda and Fadavi is legally deficient, since, at the very least, as explained above, neither Voit nor Chadda discloses or suggests the features of claim 1, from which claim 12 depends. Claim 19 has been cancelled.

It is therefore respectfully submitted that the present invention is not disclosed or suggested by the cited reference taken alone or in combination. Claims 1 and 13 and their dependent claims 2-12 and 13-18 are believed to be in condition for allowance for at least the reasons stated above. Early and favorable reconsideration of the case is respectfully requested.

It is respectfully asserted that since claim 19 was considered previously by the Examiner, no new issues are believed to have been raised by the present amendments.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that claims 1-18 are in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicants' Deposit Account No. 07-0832.

Respectfully submitted,

JOHN WILLIAM RICHARDSON ET AL

By: _____

Joseph J. Kolodka
Attorney for Applicants
Registration No.: 39,731
(609) 734-6816

JJK:pdf

THOMSON LICENSING INC.
PATENT OPERATIONS
P.O. BOX 5312
PRINCETON, NJ 08543-5312

August 15, 2005